IN THE

Supreme Court of the United States

OCTOBER TERM, 1927.

No. 285.

HOLLAND FURNITURE COMPANY,

Petitioner,

vs.

PERKINS GLUE COMPANY.

REPLY BRIEF FOR PETITIONER.

The simple issue of this case is confused in plaintiff's brief, as it is in the opinion of the Court below, by a discussion of process and product. Plaintiff reiterates again and again throughout its brief, and the Court below took the view, that defendant's contention is that the product claims of the patent are limited to process features. That is not defendant's position and was not defendant's position below.

Defendant's position is that Perkins' product cannot be identified by the use to which it is put or its ability to do the work of animal glue; that it is a chemical compound having defined properties derived from the chosen quality and quantity of its ingredients; that one of these ingredients is a starch having a certain degree of water-

absorptiveness; that this degree is determined by the tests of the patent; and that defendant does not infringe because it does not use starch coming within these tests.

Defendant further urges that this limitation is made clear and unequivocal by plaintiff's disclaimer. In discussing the effect of this disclaimer plaintiff (and the Court below) most strikingly confuses product and process. The claims from which the use of starch such as defendant uses was disclaimed, are not "process" claims in any further sense than that they call for the *selection of ingredients* and the disclaimer makes this *selection* definite by limiting it to a starch "degenerated to the extent specified in the patent."

A process is a mode of treatment of certain materials to produce a given result.* Where the result hinges on the *selection* of the materials rather than on the *mode of treatment*, claims defining the selection cannot logically be differentiated from claims defining the product resulting from the selection. The disclaimer did not limit the claim to a *method* of degenerating, but to *choosing* an ingredient of a specified *degree* of degeneration. It was in very intelligible sense a *product* limitation. The thing covered by the "second step" claims as amended by disclaimer and the thing covered by the product claims now sued on,—the only thing covered by either of them—is the use of a starch having water-absorptiveness (degeneration) within the defined range together with three parts or less of water and caustic (D. B., 58-59 and cases cited—and *post*, pp. 47-48).

We believe there are other confusions of this simple issue arising from error and loose use of terms in plaintiff's brief, and because we feel that the Court below was led into error by these same confusions, we shall now take them up in some detail:

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*Cochrane vs. Deener, 94 U. S., 780.

(1) Plaintiff's statement of the case is confused by unnecessarily bringing into it Perkins' "preferred two-step process," wherein "starch is treated in a first step with chemicals to degenerate it" (P. B., 3).* Plaintiff's counsel misstate defendant's position when they say defendant contends that the glue product claims are limited to this preferred two-step process (P. B., 3).

(2) Correct statement of defendant's position, elaborated in our main brief, is this: The glue product disclosed in the patent and covered by the product claims is a chemical combination of two elements individually old—(1) a glue-base of specified water-absorptiveness, and (2) a solvent consisting of caustic alkali and a stated quantity of water. Defendant's glue is not the glue product of the patent. It has not the essential glue-base ingredient of the patent, and consequently has not the ample fluidity imparted to the glue product of the patent by the quality of that essential ingredient. Defendant tolerates the less fluid glue that Perkins rejected, using heavier machinery to handle it (D. B., 3, 7, 26, 47, 61, 63, 64, 66, 67, 69—and *post*, pp. 35-37).

There is no need to bring into the discussion any process of degeneration since only the product claims are here involved, and defendant's glue-base is an ordinary untreated starch which has not been subjected to any degenerating process whatever (R., 48, 49, and P. B., 92-93).

(3) We may delete so much of plaintiff's argument as is based upon the irrelevant discussion of the two-step process involving chemical degeneration.**

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*We use the abbreviation "P. B." to refer to plaintiff's brief, and "D. B." to refer to defendant's main brief, in this Court.

**The extent of this is more fully pointed out, post, pages 13, 42-49.

We then find in plaintiff's brief the following propositions:

(a) **"That Perkins attained his vegetable glue by using a starch not too far degenerated (i. e., not to soluble starch or dextrine)" dissolved in 3 parts or less of water and alkali** (P. B., 3).*

(b) That "it was the use of the CRITICALLY SMALL AMOUNT OF WATER with a suitable starch which resulted in the new good as animal glue for veneering" (P. B., 121; emphasis theirs).

Those propositions are not in terms directed to the disclosure of the patent—to the thing described and claimed within the four corners of that document. They are irrelevant if defendant is right in saying that the glue patented is a chemical combination of which one essential element is a starch base of reduced water-absorptiveness within the range measured by the tests of the patent. They are irrelevant if defendant is right in saying that the thing disclaimed is glue made with 3 parts or less of water and caustic alkali applied to starch other than a "starch or starchy product or carbohydrate * * * degenerated to the extent described in said Letters Patent" (D. B., 41-47).

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*This proposition (a)—that the starch ingredient of the glue product is "any starch not too far degenerated (i. e., not to soluble starch or dextrine),"—although urged upon, was not accepted by, the Court of Appeals of the Sixth Circuit, which said (D. B., 57, R., 646):

> "Perkins **lessened the capacity of the starch molecules for water absorption,** but was careful not to carry the treatment far enough to change the starch into dextrine or to dissolve it." (Emphasis ours.)

But to analyze a little further these two propositions (a) and (b), let it be noted that proposition (a) differs from proposition (b) in this: In proposition (a) the glue-base of the patent is defined as "a starch not too far degenerated (i. e., not to soluble starch or dextrine)." In proposition (b) the glue-base of the patent is defined as "a suitable starch" which, with the stated amount of water, will result in glue "as good as animal glue for veneering." Proposition (a) rests upon identifiable qualities of the chemical constituents of the glue product. Claims of that scope would not be open to the objection that they cover mere function, principle or result. They would be valid product claims if they defined the real invention disclosed in the patent.* Proposition (b) rests not upon identifiable qualities of the constituent ingredients of the glue product, but upon availability of the final product for use. Claims of that character, if they existed in the patent, would be invalid for that reason (*post*, p. 14).

The Fallacy of Proposition (a) Above.

More specifically with respect to proposition (a) let it be noted that the liberal terms of the product claims in suit identify the first ingredient of the product merely as starch ("cassava carbohydrate" claim 28, "starch carbohydrate or its equivalent" claim 30, "amylaceous material as a base" claim 31). They are insufficient as they stand to define either the actual selection described in the patent or the partial selection defined in proposition (a) above. Validity of these product claims can be arrived at only by reading into the words defining the starchy

*Corn Planter Case, 23 Wall., 181; Electric R. Signal Co. vs. Hall, 114 U. S., 87; Hobbs vs. Beach, 180 U. S., 383, 400; Westinghouse vs. Boyden, 170 U. S., 534; Mitchell vs. Tilghman, 19 Wall., 287, 391.

component of the patented product a meaning consistent with the disclosure of the specification—a starch having water-absorptiveness within the defined range of the patent, not too high as well as not too low. That, and that only, is permitted by the liberal rule of the cases just cited* expressed, for example, in the *Corn Planter Patent case* in the words:

> "The first of these claims, if construed simply as claiming the placing of the seed-dropper on the machine, would probably be void, as claiming a mere result, irrespective of the means by which it is accomplished. But if construed as claiming the accomplishment of the result by substantially the means described in the specification, it is free from that objection; and we ought to give a favorable construction, so as to sustain the patent if it can fairly be done."

Further, with respect to proposition (a), we point out that when plaintiff now defines the starch ingredient of the patent as "starch not too far degenerated (i. e., not to soluble starch or dextrine)," it not only ignores the disclosure of the patent which insists that the starch must *also be degenerated far enough* (D. R., 19-20, R., 247, lines 68-74, R., 249, lines 84-89), but it makes a complete reversal of its statement of the invention upon which the claims were sustained in the *Solva case*, and were applied in the *Hood-Wright* and *West Michigan cases;*** and it continues to insist upon a position which the opinion written by Judge Dennison of the Circuit Court of Appeals of the Sixth Circuit rejected (*ante*, footnote, p. 4).

When plaintiff now says, in perfect contradiction of what it said in the *Solva case*, that starch degenerated to any point short of soluble starch or dextrine falls

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*And see post, pages 16, et seq. and 29.

**See post, pages 38-41.

within the range of degeneration specified by Perkins; defendant answers in the very words plaintiff's counsel used in the *Solva case*, that the range specified by Perkins is a certain more limited range within that broad field—a range excluding **under-degenerated starch as well as over-degenerated starch.***

The clear-cut issue, whether (1) the stated quality of the glue-base and (2) the stated quantity of dissolving water are necessary to the glue of the patent, is not met by defining the glue-base as "a starch not too far degenerated (i. e., not to soluble starch or dextrine)." That definition proceeds in the right direction, but it does not proceed far enough. We think it is impossible for anyone who reads the patent or studies the facts in this case to avoid the conclusion, first, that a selection of starch is necessary, and, second, that the selection of starch must avoid under-degeneration (excessive water-absorptiveness), as well as over-degeneration.

In the face of the patent, with its expressed discarding of ordinary untreated starches as too highly water-absorptive and its insistence on the necessity for reduc-

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*See quotation from plaintiff's brief in the Solva case (D. B., 33) where plaintiff insisted that the range of degeneration specified by Perkins is not the broad range of starch degenerated to any point short of soluble starch or dextrine, but is narrower, excluding also UNDER-DEGENERATED STARCH; and the quotations from plaintiff's memorandum on motion for rehearing (R., 352-353, D. B., 37-39) where the plaintiff described the decision of the Court of Appeals in the Solva case as founded upon the proposition that the second step alone would not produce "the 'starch glue as good as animal glue and suitable for veneering' covered by claims 28 and others * * * if, for example, applied to the UNDER-DEGENERATED STARCH SUCH AS RAW STARCH or to an over-degenerated starch such as dextrine." (See also the statement of plaintiff's position in the Hood-Wright and West Michigan cases, post, pp. 38-41.)

tion of water-absorptiveness, everything plaintiff's counsel say in support of this proposition (a) above must be unconvincing.

It is defendant's belief that in the face of the disclaimer, which explicitly limited the selection of this ingredient to the range of degeneration described in the patent, plaintiff is estopped to advance this proposition (a).

And certainly, in the light of what they said in the *Solva case*, they will fail to convince this Court, as they failed to convince the Court of Appeals of the Sixth Circuit, that the glue of the patent can be defined merely by limiting the choice of the glue-base to starches that have not been over-degenerated to soluble starch or dextrine. As plaintiff's counsel themselves expressed it in their brief in the *Solva case* (P. B., 33) it "is not the case" that "a starch degenerated to any point short of the soluble starch or dextrine stages falls within the range of degeneration specified by Perkins."

It is clear, therefore, that we may delete so much of plaintiffs' argument as is based upon the proposition (a) above.

The Fallacy of Proposition (b) Above.

More specifically with respect to proposition (b) above, we note that it is in effect the proposition upon which the Court of Appeals of the Sixth Circuit decided the case in plaintiff's favor. Here lies the sharp issue of the case. Was that Court right or wrong when it defined the scope of the patent by the functional limitation "as good as animal glue for veneering"?

That issue is discussed in our main brief (D. B., 21, and cases cited, 24-25, 61-64 and 73-78). In reply to plaintiff's discussion of that issue, we add the following.

The Language of the Claims.

On this proposition (b), as on the proposition (a), it is not possible for plaintiff to stand on the literal terms of the claims. It is not necessary that they should, since the terms of patent claims are to be interpreted not literally but reasonably in the light of the specification, to define the real invention. But we mention the fact that the literal wording of these claims does not support plaintiff's position because again and again in their brief, plaintiff's counsel assert that it does; pretend to stand upon the literal wording of the claims, and challenge the court to hold the claims invalid if the literal wording is not sufficient to define the product that is Perkins' invention (P. B., 9, 132, 136, 139, 152, 153, 168 and 172). The product claims in suit specify, to be sure, the "critically small amount of water" that is an element of the product invention as defined by plaintiff in proposition (b); but they do not define the "suitable starch." The actual words of the claims identifying the starch are "cassava carbohydrate," claim 28; "a starchy carbohydrate or its equivalent," claim 30; and "amylaceous material as a base," claim 31. If we turn, as plaintiff would have us do, to words defining the utility of the final product with the idea (erroneous, as we shall point out) that words defining the utility of the final product can be made to take the place of proper words defining the ingredients—and so adequately define the "suitable starch," we do not find in any of these claims the words "good as animal glue for veneering." Claim 28 defines the finished product as a glue "having substantially the qualities of animal glue" broadly. Claim 30 defines it as "a wood and fiber glue" broadly, and claim 31 defines it as "a wood and fiber glue * * * viscous, semi-fluid and unjellified." Nor does the specification of the patent anywhere define the glue as "as good as animal glue for veneering." When plaintiff's counsel, realizing that some choice of suitable glue-base is essential to the invention, look to the patent

to find how to make the choice, they cannot find there any instruction to choose a base that will make "as good as animal glue for veneering."*

They say (P. B., 96 and 157) that "the critical test for determining whether the base is suitable, if any, seems to be the one referred to at page 4, line 42, of the patent where it says the base is one which

> " 'may be formed into glue by using only from 1 to 3 parts of water.' "

That is evidently a much broader test than the "good as animal glue for veneering" that plaintiff feels impelled to limit the claims to. The literal wording of the claim does not substantially narrow the functional criterion so stated in the specification, or bring it, by literal definition even of the ultimate properties of the final glue, within plaintiff's range of safe distinction from the prior art. Even from plaintiff's wholly unsound point of view that a functional definition is legally sufficient, they find it necessary to read into the claims the whole function "as good as animal glue for veneering," which is not expressed literally either in the claims or in the specification.

Moreover, the evidence shows that the Perkins glue was not as good as animal glue for joint work (D. B., 57, R., 142, 144, 225) and the real significance of bringing in the words "for veneering" is that according to Perkins' ideas, the glue for veneering (that is to be handled on veneering machinery) must have the ample fluidity imparted to it by the reduction of the water-absorptiveness of the base—a degree of fluidity that defendant's glue does not possess because it is not made from the starch of reduced water-absorptiveness (D. B., 3, 7, 47 and post, pp. 35-37).

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*That if the disclosure rested upon such a yardstick to determine the choice the patent would be wholly invalid (see post, p. 14).

The Prior Art.

Still further, the claims, literally interpreted, are invalid in view of the prior art. Take first the prior use at Poplar Bluff. Plaintiff's counsel agree that the object there sought was a glue as good as animal glue, but say this object was not there attained (P. B., 60). Why was it not attained? The making of starch glue by dissolving ordinary untreated starch (not weakened in strength by degeneration to soluble starch or dextrine) —by dissolving such starch in water and caustic alkali in power-driven mixing machines with violent agitation— was well known in making up Gerard's apparatine and in the disclosure of the Dornemann patent (D. B., 8-12). The condition that a small quantity of water should be used, less than 3 parts of water to the weight of the dry glue, was well known. It was a condition imposed by the practice with animal glue in the wood veneering industry. Clearly nothing stood in the way of mixing these ordinary starches with 3 parts or less of water in these well-known power driven mixing machines. There was no novelty or invention there. But the difficulty was, as Perkins says in his patent, that the dissolving step applied to that kind of starch produced a glue jellylike and tough—too heavy to be as good as animal glue for veneering. That ordinary starch was not suitable to his purpose, and he was not satisfied with it. The glue so made was so heavy that it broke the agitators and would not flow through the pipes to the mixing machines (R., 681, P. B., 15). But by using slightly more water, they got a glue that they could handle, and it was used continuously at Poplar Bluff in making barrel heads for more than two years prior to Perkins' application (D. B., 14-16, and see the contemporaneous correspondence which shows that this glue was continuously and satisfactorily used, R., 915-987).

Being dissatisfied with this glue, which certainly was made in accordance with the disclosure of these prior art patents, Perkins proceeded with the selection of "suitable starch" that he subsequently patented. That selection involved reduced water-absorptiveness, and the question was—how far reduced? Perkins answers that question in his patent. A choice being necessary to the purpose and fundamental basis of his invention it was incumbent upon him to answer in his patent the question how to choose.* His answer was that you must choose a starch degenerated far enough but not too far as determined by the tests which the patent was reissued to amend.

We may, therefore, also delete so much of plaintiff's argument as is based upon the suggestion that the literal wording of the claims is sufficient to define the invention, and the corollary that because the literal wording of the claims embraces defendant's product there must be infringement. In that way we get one step closer to the real issue. And here let it be noted that when the learned Judge who wrote the opinion of the Court of Appeals of the Sixth Circuit was discussing the scope of the claims as affected by the disclosed tests of the patent (R., 649-650) he agreed that (R., 649):

> "to make operative and intelligible, there is an implied limitation to that base which, when combined as stated, will give the result stated. In other words, out of the variety of starchy carbohydrates we must select one suitable for this combination."

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*It was in recognition of this essential requirement that plaintiff surrendered and reissued the original patent which it represented to be "inoperative or invalid" for the reason that the original disclosure of the way to choose the "suitable starch" was incomplete (D. B., 22-23).

It was in holding that this necessary selection was sufficiently defined by the utility of the resulting product that the Court of Appeals erred on the fundamental issue of the case.

There is no doubt that the confusion introduced by irrelevant discussion of the two-step process involving chemical degeneration of the starch base contributed to mislead the learned Judge who wrote the opinion of the Court of Appeals of the Sixth Circuit to so extend the scope of the patent and to so limit the scope of the disclaimer, as to bring defendant's glue within the supposed monopoly (see D. B., 58-59).

The Court, after rejecting the idea that the lessening of the capacity of the starch molecules for water-absorption had to be effected by any particular process (an idea that defendant did not advance there and does not advance here) passed over the true measure and identification of the patented glue—the fact stated so elaborately in the specification that it rested (even where all process considerations are laid aside) upon the right selection of ingredients—and proceeded to measure the degree of lessened water-absorptiveness necessary to the glue-base of the patent by reference not to the glue-base itself, but to the final product. The Court used as a yardstick, not any ingredient of the patented compound or any chemical or physical characteristic imparted to it by the chosen ingredients; but the availability for use of the finished glue as expressed in the words "as good as animal glue for veneering" (D. B., 62-63). Thereby the Court, accepting neither plaintiffs' nor defendant's contention as to the chemical constituents necessary to the glue of the patent, gave to the patent an interpretation which makes it cover not the product but the purpose of the Perkins invention.

The Law.

To give plaintiff a patent, regardless of the degree of degeneration (P. B., 30, 154) that Perkins in his investigations subsequent to his work at Poplar Bluff found to be necessary to the achievement of the result he was aiming at, is to give it a patent, not for the invention Perkins then made—the means of achieving his result,—but for the result itself. It is, of course, elementary that a patent cannot be granted for a result. The real danger arising out of defendant's proposition here is that, because of the confusion introduced into the discussion of it, this Court will be led to a conclusion essentially violative of that principle; thereby establishing a precedent that will introduce great confusion into the patent law.

That disturbance of the established rules of patent law certainly exists in the *thing decided* by the Circuit Court of Appeals of the Sixth Circuit in the case at bar. Considering the case as a precedent, we are not concerned with the reasoning of that Court, but rather with the thing decided, and it is for that reason that we are extending this reply to plaintiff's brief to avoid, if possible, any such confusion as we believe to have existed in the mind of the Judge who wrote the opinion below. That opinion (R., 649) starts its discussion of this particular point by saying that defendant contends that the product claims "imply a limitation by starting with the product of the first step." It is now clear that defendant's contention is only that the glue product must contain a starch base selected from the range of water-absorptiveness defined in the patent. With that understanding—and it is essentially involved in the adjudication even though the Court did not clearly apprehend it—let us consider the following remarks of the Court. The Court says:

> "* * * there is an implied limitation to that base which, when combined as such, will give the result stated. In other words, out of the variety of starchy carbohydrates, we must select one suitable for this combination. In this there is no forbidden vagueness, for the specification teaches that starch is suitable when its water-absorbing capacity is not too high nor too low, but is in what we may call for convenience the medium range."

It is true that there is no forbidden vagueness and no disturbance of the established rules of patent law as to sufficiency of disclosure if the specification teaches that the selection must be made from a medium range and definitely discloses what that range is. The specification does so teach. But the dangerous effect of the decision of the Court of Appeals is that, in measuring the scope of the patent, it measures that "medium range," not by the limits put upon it in the specification, but by the functional consideration of ultimate result.

If this Court affirms that decision, the case will stand as a precedent for the proposition that an inventor who by the selection of materials first produces a product satisfying a pre-existing want, can have a monopoly extending beyond his range of selected materials to cover products subsequently made from materials not within that range. The effect of the case cannot be concealed by the fact that the patent claims specify definitely the limitation of the quantitative field of choice of one of the ingredients—water. The defect of the claims, as plaintiff and the court below interpret them, is that with respect to the other ingredient—starch—the range is not limited to the kind of material Perkins chose; and to that extent goes beyond the invention he actually made. It will therefore result that the door will be opened to a relaxation of the well-established and necessary prin-

ciple that a patentee is entitled to patent not the result he achieves but only the means he discovers for achieving it.

That is the principle of the cases cited in our main brief in the footnote to page 21. Plaintiff's discussion of those cases (P. B., footnote, 154-156) does not meet the issue. Plaintiff discusses the cases in supposed application to what is indeed a "false issue" (P. B., 154) which plaintiff attributes to defendant erroneously. It is *not* defendant's contention "that the invention in issue is the production of a base of 'a particular degree of degeneration' instead of starch veneering glue" (P. B., 154); and the mere expression "instead of starch veneering glue" (P. B., 154) here used by plaintiff's counsel, shows the true scope that they are asserting for the patent. They are in fact asserting that their patent covers "starch veneering glue" however made, and strange as it may seem, the practical effect of the decision of the Court below is to give them a patent of that scope.

The principle referred to is also the principle of the cases cited in the footnote (ante, p. 5). In fact, if the partial limitation of the claims to glue made from a starch "not degenerated to soluble starch or dextrine" —in accordance with plaintiff's proposition (a) above— is insufficient to save the claim from invalidity because it covers more than the patentee invented, it must follow that the less direct—more functional—limitation of the claims by the yardstick "as good as animal glue for veneering" is insufficient.

From the earliest date it has been established that the specification of a patent on a new composition of matter must describe the ingredients, their qualities and proportions, with certainty. Thus, in the early case of *Wood* vs. *Underhill, et al.*, 5 How., 1, this Court said (p. 5):

> "But when the specification of a new composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, undoubtedly it would be the duty of the court to declare the patent void. And the same rule would prevail where it was apparent that the proportions were stated ambiguously and vaguely."

In that case the Court found that the proportions were fairly stated and held that the defendant infringed by using the equivalent of the stated proportions. It is equally true that in the patent in suit the quality is fairly stated, and defendant would infringe if it used a starch of the stated quality. But it does not.

This rule that the quality and proportion of necessary ingredients must be stated without ambiguity, and its corrolary that the patent is limited to the stated range of quality and proportions, has never been departed from and has recently been applied in *Minerals Separation* vs. *Butte, etc., Co.*, 250 U. S., 336. In that case the invention depended upon the selection of a particular quantity of oil (1% on the weight of the ore). The invention was one of the greatest merit. Defendant used more than 1% of oil. The Court held there was no infringement. Although the patent defined the invention by the *quantity* of oil the *quality* of oil was also involved in the decision. Plaintiff's contention there rested upon the proposition that although more than 1% of oil was used, yet some of the oil mixture was a kind of oil that was not the oil of the patent, and that consequently the defendant actually used less than 1% of the oil of the patent. To determine what was the quality of oil defined in the patent the Court looked at the specification, and said (p. 350):

> "To give such a construction to the patent would subordinate the clear description contained in it of what are oils of the process, to an implied and vague description and classification, which would leave the whole subject again at large, to become a field for further experimentation, without definition in the patent of what oils or froths would satisfy it. So interpreted the patent could not reasonably be said to contain a disclosure of the discovered process in the 'full, clear, concise, and exact terms' required by law (Rev. Stats., Sec. 4888) and the claims might conceivably be said to fall short of 'particularly pointing out and distinctly claiming' any discovery at all within the meaning of the act of Congress."

That the principle of this case is a salutary one and that it ought to be applied in the case at bar is well illustrated by plaintiff's discussion (P. B., 92-97) under the heading "Defendant's Base is Degenerated," and by the testimony there referred to (see post, pp. 35-37).

In *O'Reilly* vs. *Morse*, 15 How., 62, at page 112, the Court, referring to the eighth claim of the patent, said:

> "It is impossible to misunderstand the extent of this claim. He claims the exclusive right to every improvement where the motive power is the electric or galvanic current, and the result is the marking or printing intelligible characters, signs, or letters at a distance,"

and held the claim invalid because it covered a principle or result. So in the case at bar the claim, as plaintiff would interpret it, covers every improvement where the material used is starch with three parts of water and alkali and the result is glue as good as animal glue for veneering; it being admitted that certain starches

dissolved in that amount of water and alkali will not produce glue as good as animal glue for veneering.

In *Corning, et al.*, vs. *Burden*, 15 How., 252, there was an equivocal claim that might have been interpreted to cover either a process or a machine. The Court defined the meaning of the term "process," pointing out what sort of processes are patentable, and saying that when the term "process" "represents the function of the machine, or the effect produced by it" (p. 268), it is not patentable, and said (p. 269):

> "His patent, having a title which claims a machine, and his specification describing a machine, to construe his claim as for the function, effect, or result of his machine, would certainly endanger, if not destroy, its validity. His claim cannot change or nullify his previous specification with safety to his patent. He cannot describe a machine which will perform a certain function, and then claim the function itself, and all other machines that may be invented to perform the same function."

So in the case at bar the patentee cannot describe a starch glue that will have the properties of animal glue and then claim all starch glues that have those properties; or even all starch glues made with 3 parts of water and alkali that have those properties, since starch glues may be made with 3 parts of alkali that do not have those properties.

In *Carver* vs. *Hyde*, 16 Pet., 513, the invention involved was a mechanical improvement on the cotton gin. The Court said (p. 519):

> "Now the end to be accomplished is not the subject of the patent. The invention consists in the new and useful means of obtaining it. And if the defendant had * * * made an improvement which

> more effectually secured the object intended to be accomplished by the plaintiff's patent, it would be difficult to maintain that it could not be lawfully used, because it produced the same result with the plaintiff's invention."

In *Tyler* vs. *Boston*, 7 Wall., 327, the Court said (p. 330):

> "* * * a discovery of a new substance by means of chemical combinations of known materials is empirical and discovered by experiment. Where a patent is claimed for such a discovery, it should state the component parts of the new manufacture claimed with clearness and precision, and not leave the person attempting to use the discovery to find it out 'by experiment.'"*

The patent there stated the proportions and the trial Court had charged that whether defendant's compound used substantially those proportions was a question for the jury. The jury found for defendant and the judgment was affirmed. The effect of the decision was, of course, to hold that the scope of the monopoly was limited to a compound having equivalent ingredients as measured by the disclosure of the patent. The invention was a compound of oils for illuminating purposes and the case necessarily involved the holding that infringement could not be predicated upon the mere finding that defendant's product was a good illuminating mixture.

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*In the case at bar plaintiff's counsel admit that when once you depart from the tests of the patent the only way a particular starch will make a glue as good as animal glue for veneering is to make up the glue and try it, and they say that no

(*Footnote continued on next page.*)

In *Cochrane* vs. *Badische, etc., Fabrik*, 111 U. S., 293, it was held that (p. 310):

> "Every patent for a product or composition of matter must identify it so that it can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process."

The basis of that holding was that to give a broader interpretation to such a product claim would cover a wider scope than the actual invention (p. 313). It must be equally true, for the same reason, that a patent for composition of matter mus' identify it so that it can be recognized aside from the description of its field of use. Otherwise the patent covers other means, not invented by the patentee, of arriving at the same result.

In *Bene* vs. *Jeantet*, 129 U. S., 683, there was a claim for a product defined as "hair of fine texture produced from any grade of coarse hair, either animal or human, by the method of refining, substantially as herein described" (p. 685). The Court said (p. 686):

> "The only fact upon which the plaintiffs relied was, the correspondence of the articles proved to have been sold by defendant, in respect of smoothness, lustre and pliability, with the hair produced according to the patented process; which correspond-

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laboratory tests but only a factory test is sufficient for that purpose. They say (P. B., 29):

> "To determine whether any starch glue has substantially the properties of animal glue for veneering, the best and probably only satisfactory test is to try it out on a commercial scale in a furniture veneer gluing factory. No laboratory test seems to be sufficient * * *."

> ence, it was contended, showed that both products resulted from the same method or equivalent method of preparation,"

and (p. 686):

> "The broad construction claimed for this patent as a pioneer and foundation invention in the art of refining hair cannot extend the rights of the patentee beyond the compositions of matter and processes which, as stated in the patent, embody his real invention."

In *The Incandescent Lamp Patent* case, 159 U. S., 465, the Sawyer-Man patent related to the making of incandescent lamp filaments from carbonized paper. The third claim (p. 468) reading:

> "3. The incandescing conductor for an electric lamp formed of carbonized paper, substantially as described,"

was sustained on the basis of a specification which disclosed the making of incandescent electric lamp filaments from carbonized paper. But the patent contained claims not limited to carbonized paper of which claim 1 is a sufficient example (p. 468):

> "1. An incandescing conductor for an electric lamp, of carbonized fibrous or textile material and of an arch or horseshoe shape, substantially as hereinbefore set forth."

The defendant made incandescent lamp filaments from carbonized bamboo. Plaintiff contended that it was entitled to monopolize the use of all fibrous and textile

materials for the purpose of making incandescent lamp filaments. The Court said (p. 472):

> "If the patentees had discovered in fibrous and textile substances a quality common to them all, or to them generally, as distinguishing them from other materials, such as minerals, etc., and such quality or characteristic adapted them peculiarly to incandescent conductors, such claim might not be too broad."

So here, if Perkins had discovered in starches generally the quality of making glue as good as animal glue when dissolved in 3 parts of water and alkali, the claim as plaintiff interprets it, might not be too broad. But the fact is that not all starches have that property. In the *Incandescent Lamp Patent* case, the Court went on to say (p. 472):

> "If, for instance, minerals or porcelains had always been used for a particular purpose, and a person should take out a patent for a similar article of wood, and woods generally were adapted to that purpose, the claim might not be too broad, though defendant used wood of a different kind from that of the patentee. But if woods generally were not adapted to the purpose, and yet the patentee had discovered a wood possessing certain qualities, which gave it a peculiar fitness for such purpose, it would not constitute an infringement for another to discover and use a different kind of wood, which was found to contain similar or superior qualities. The present case is an apt illustration of this principle. Sawyer and Man supposed they had discovered in carbonized paper the best material for an incandescent conductor. Instead of confining themselves

to carbonized paper, as they might properly have done, and in fact did in their third claim, they made a broad claim for every fibrous or textile material, when in fact an examination of over six thousand vegetable growths showed that none of them possessed the peculiar qualities that fitted them for that purpose. Was everybody then precluded by this broad claim from making further investigation? We think not."

Plaintiff in its brief (P. B., 165) dismisses this case with reference to that portion of the opinion (p. 474) where the Court said that Section 4888, R. S., requires a definite and certain description; as though the *Incandescent Lamp* case dealt only with the question whether the patent was invalid for lack of sufficient description. But there was no doubt in that case that the description of the patent was sufficient, because the third claim was sustained. The question before the Court was whether the patent could be interpreted to cover all successful incandescent lamp filaments made from fibrous and textile substances of any kind, and the Court held that it could not be so interpreted. The Court cited (pp. 474-5) *Grant* vs. *Raymond*, 6 Pet., 218, 247; *Wood* vs. *Underhill*, 5 How., 1, 5; *Tyler* vs. *Boston*, 7 Wall., 327, 330; *Bene* vs. *Jeantet*, 129 U. S., 683; *Howard* vs. *Detroit Stove Works*, 150 U. S., 164, 167, and certain lower court cases to the effect that the disclosure must be made with sufficient certainty to enable persons skilled in the art to practice the invention without experiment and went on to apply that principle (p. 45) to the patent under consideration. The Court pointed out that an examination of fibrous and textile substances generally carried on for months revealed nothing that seemed to be adapted for the purpose. So in the case at bar Perkins' work at Poplar Bluff with heavy starches carried on for a long time re-

vealed no starch that answered his purposes; although it did reveal starches that made usable wood working glue with a slightly larger quantity of water. Ultimately he found a particular range of degeneration that, with the desired quantity of water, would produce the desired glue just as Sawyer-Man discovered that carbonized paper would produce satisfactory incandescent lamp filaments. But in the *Incandescent Lamp Patent* case the Court said (p. 476):

> "Under these circumstances, to hold that one, who had discovered that a certain fibrous or textile material answered the required purpose, should obtain the right to exclude everybody from the whole domain of fibrous and textile materials, and thereby shut out any further efforts to discover a better specimen of that class than the patentee had employed, would be an unwarranted extension of his monopoly, and operate rather to discourage than to promote invention."

In *Matheson* vs. *Campbell* (C. C. A., 2nd), 78 Fed., 910, the patent in suit covered the manufacture of a black dye from coal tar. The patentee showed a special process for making it from one compound out of a general group and claimed the product if made from any others of this general group. The evidence showed that most of the compounds in the general group when treated according to the patentee's process would not produce the black dye. The Court, commenting on this, said (p. 915):

> "In other words, having himself experimented only with three or four bodies out of a group of hundreds, he [the patentee] proposes to set himself in the pathway of future experimenters with any or

all of the other bodies, and, as the result of each new experiment is disclosed, will fire away at it, calculating to 'hit it if it is a deer, and miss it if it is a cow.' "

The Court further said (p. 916):

"The inventors did not make any such 'broad discovery.' They made the specific discovery that some di-sulpho acids, treated according to their process, would produce their product. The broad discovery that all sulpho acids may be thus transformed they certainly did not discover, for it is apparently undiscoverable, since most of them cannot be thus transformed by the process of the patent. Some future experimenter will have to make some new discovery, and invent some new process, before these other sulpho acids can be transformed into naphthol-black. We are referred to no authority, and know of no principle, which will sustain the complainant's contention that he can thus, in the language of the circuit court, 'speculate on the equivalents of his claimed invention, and thereby oblige the public to resort to experiments in order to determine the scope of the claims of his patent.' "

The Court, however, did not put its decision on this basis but rather on that of non-infringement. It said (pp. 917-918):

"It must be borne in mind that, in the practical determination of questions of alleged infringement, the problem is very different when we are dealing with a chemical compound than it is when we are dealing with a machine. Such observation as the eye can give to the machine at rest and in action, illuminated by a comparison of the co-ordination of

its parts with that of like parts in other machines, will be ordinarily sufficient to determine its classification. Far different is it with a chemical compound. No mere observation by the eye, supplemented even by the taste and touch, can go very far towards a solution of the problem. The same mysterious forces through whose action and reaction the compound was produced must be availed of to disintegrate and disrupt, before there can be any assurance of what it is we have before us. Hence it is that so-called 'tests' are devised by those skilled in the art and science of chemistry, which, in their opinion, as experts, will reveal the secrets of the composition sufficiently to make the answer to the question positive enough to support the judgment of a court.

An inventor takes certain starting materials, and subjects them to a process he has devised. The result is a product. If he sufficiently describes the starting materials and the process in his patent, he may claim the product, being new; but, if he simply defines what he claims as the 'product of his process,' he might find it an extremely difficult matter to prove infringement. * * * Now, there are many tests that may be applied to two bodies which are being compared in order to determine whether they are or are not identical. The number of these tests may be multiplied indefinitely, for the skill, the experience, the scientific ingenuity of the chemist, will ever devise new ones in the future, as they have the old ones in the past. Some of these tests will be of great significance; some, almost crucial; others will be of but minor importance. Their relative value, no doubt, may change as science goes sweeping on from point to point; *but it must be sound law, as it is reasonable common sense, to hold*

that the tests of prime importance in a suit for infringement are those which the patent itself prescribes. The inventor certainly may be assumed to know what it is that he has invented. If anyone is able to describe the product of his inventive skill, it is himself. He surely knows the earmarks of the thing he seeks to patent, and when, out of the multitudinous qualities which his product may exhibit under varying conditions and in different relations, he has selected and set forth in his patent a chosen few, surely these should be accepted as the distinguishing earmarks,—the characteristic stigmata of the product his patent is to cover." (Emphasis ours.)

In *American, etc., Co.* vs. *Mesta, etc., Co.* (C. C. A., 3rd), 18 Fed. (2d), 538, the Court of Appeals affirmed the ruling of the lower court that the defendant did not infringe. The patent in suit claimed a new chemical composition—a very hard substance known as "Adamite." The Court, commenting on the question of infringement, said (p. 539):

> "The trouble is to discover when a product is Adamite. This is a difficulty inherent in the product and in its source, and it was so recognized by the patentees. We think the only way a court can discover Adamite is by following the way the patentees themselves described it. Matheson vs. Campbell, 78 Fed., 910, 917, 918 (C. C. A., 2d)."

The plaintiff took the position that although there were a number of characteristics stated in the patent whereby the product might be identified, some of them were dominant and others unessential, and that the defendant's product had all the dominant characteristics. The Court said (p. 539):

> "When, as here, an important group of identifying characteristics, imposed upon the product by the patent, is absent, one asserting the patent cannot limit himself to what he claims to be, and what, in truth, may be, the dominant characteristics of the invention and prevail on proof of them alone. Some one else, conceivably, might invent a product with these characteristics and no others, and differentiate his invention from that of the patentee by that very difference."

It will be noted that in this case, as in the case of *Matheson* vs. *Campbell*, which is cited as authority, infringement was determined by applying the tests which were found not in the claims but in the body of the specification.

As we have said (ante, pp. 5-6), it is because of the general rule that claims which literally cover mere function, principle or result are invalid, that the Courts, in liberal interpretation of the patent statutes, will interpret the words of the claims to cover the real invention if that can be definitely and unmistakably ascertained from the specification. We have quoted the expression to that effect in the *Corn Planter Patent* case (ante, p. 6).

In *Seymour* vs. *Osborne*, 11 Wall., 516, at page 547, this Court said:

> "Where the claim immediately follows the description of the invention it may be construed in connection with the explanation contained in the specifications, and where it contains words referring back to the specifications it cannot properly be construed in any other way."

In *Mitchell* vs. *Tilghman*, 19 Wall., 287, at page 391, the Court said:

> "Usually the claim contains the words as described or substantially as described, or words of like import, which are everywhere understood as referring back to the descriptive part of the specification. Words of such import if not expressed in the claim must be implied, else the patent in many cases would be invalid as covering a mere function, principle or result, which is obviously forbidden by the patent law, as it would close the door to all subsequent improvements."

See also *Fuller* vs. *Yentzer*, 94 U. S., 288, and *Westinghouse* vs. *Boyden*, 170 U. S., 537, at pages 557-558.

But it is elementary that the principle will not be carried so far as to exclude what is in the specification or to interpolate anything it does not contain.*

So, in the case at bar, error can be avoided only by measuring the quality of the glue-base with the measuring sticks that the patentee discloses in the specification—the 9 to 1 boil-up test and the 170° hot water test of the patent.

(4) As we pointed out in our main brief (D. B., 70-78), we believe the error of the Court of Appeals as to the vital issue in the case was in large part due to a misinterpretation of the remark, introduced into the patent by amendment after the inventor died, that the product of the patent might be produced from "certain grades of untreated cassava carbohydrates," coupled with the Court's failure to recognize that the untreated cassava starch involved in the *Solva case* was a natural starch having the reduced water-absorptiveness measured by the tests of the patent. We believe that with all con-

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*Rubber Co. vs. Goodyear, 9 Wall., 788 at page 795; Merrill vs. Yeomans, 94 U. S., 568 at page 583, and Motion Picture, etc., Co. vs. Universal, etc., Co., 243 U. S., 502, at page 510.

fusion as to chemical processing laid aside, and having in mind the sole question whether the glue of the patent is or is not a compound dependent for its properties for *quality* of base and *quantity* of solution, this Court will plainly see that the Court of Appeals was not justified in so interpreting these added words.

a. Examination of the patent specification in that light will show that the chosen quality of glue-base is one of the essential ingredients of the glue of the patent; although the particular chemical process of producing it is not important. The statement introduced into the patent specification by amendment that "certain grades" of untreated cassava may be used as the glue base will be seen to mean those grades of cassava which have a water-absorptiveness lying within the defined range.

b. The effect of the disclaimer will then be seen to be a limitation of the patent to the selection of such a glue-base; although not to any particular chemical process of producing such a base. The statement in the patent that "certain grades" of untreated cassava may be used will be seen to be consistent with the disclaimer when that expression is understood to mean those grades of untreated cassava which have water-absorptiveness within the defined range —the meaning plaintiff put upon it at the time of its introduction into the specification and at the time of the disclaimer.

It is true that in their brief, plaintiff's counsel persist in the assertion (see, for example, pp. 49, 50, 54, 74, 160) that in the *Solva* litigation most of the defendant's product was raw starch and that there was no evidence that it came within the tests of the patent. But that is not true. As we pointed out in our main brief (D. B., 71),

the raw starch there involved was, according to plaintiff's own statement, a "particular and peculiar cassava dry glue-base * * * which * * * behaved just like the processed goods when tested (Qs365-370, p. 646). Defendants tested it out first in the same way they did the processed goods (Qs373, 374, p. 646) and it tested the same (XQ467, p. 658)." And (D. B., 73), in the words of plaintiff's own counsel, this particular raw starch was "a starch * * * found in commerce already modified so that its viscosity is two or three times that of water by the Perkins test."

Furthermore, when in the *Solva case* plaintiff was confronted by the prior use at Poplar Bluff, it distinguished therefrom by pointing out that the raw starches there used were not degenerated to the extent specified in the patent, **and in so doing it applied to those starches the 9 to 1 boil-up test.** Thus in their brief in that case plaintiff's counsel said, referring to the various starches used at Poplar Bluff:

> "Lot 62. This was Florida grown cassava, treated January and February, 1905, with 8 quarts formaldehyde and 4 quarts caustic soda. These small amounts are not enough to produce any material amount of conversion (p. 425, fol. 1200). *It was raw material.* The viscosity was 40 at 16 to 1. *At 9 to 1 it would have been very much greater and more viscous. This was not converted and would not be usable as a panel or veneer glue.*"

> "Lot 67. This was Florida grown cassava treated in February, 1905, with a small amount of formaldehyde and caustic soda, but not enough to produce any material amount of conversion. *It was practically raw cassava.* The viscosity was 69 at 16 to 1. *It would have been much higher and more viscous at*

9 to 1. *This was obviously nothing but raw cassava and therefore not suited for a panel or veneer glue.*"

"Lot 69. This was raw cassava treated in March, 1905, with a little formaldehyde and caustic as a preservative without producing any material amount of conversion. *It was raw starch and was not degenerated to be usable for regular panel or veneer glueing.*"

"Lot 74. This was Florida grown cassava, treated in March, 1905, with a little formaldehyde and caustic but without materially converting it. It had a viscosity of 103 at 16 to 1, *showing it was raw cassava and not degenerated to make wood or panel glue.*"

"Lot 80. This was raw G. T. A. cassava and not suitable for veneer glue." (Italics ours.)

Also in their brief in the *Solva case* plaintiffs said under the heading of "Infringement" with reference to the base made by the Solva Company:

"and the degeneration was carried to and stopped at the critical point specified by Perkins."

Plaintiffs also said in that brief (p. 11):

"And Perkins' original specification told just how far to carry the degeneration or preliminary treatment of the starch to get this result. Besides stating that degeneration to soluble starch and dextrine should be avoided, it pointed out the exact stopping point or the degeneration by stating that it should be carried to the

> 'point where the base if mixed with from 2 to 3 parts of water and subjected to heat of 170° F. would result in a syrupy condition instead of a thick jellylike mass,'

and where the base, when dissolved according to the second step would parallel

> 'the animal glue solutions now employed industrially in respect of water contents as well as strength'

and still be

> 'amply fluid for easy application.'

The original specification, therefore, clearly described the same invention which is described and claimed in the Reissue patent. The amendments were merely further or additional descriptive matter of the same invention, and, therefore, quite proper and commendable, as the Court below held."

Notwithstanding the fact that in the *Solva case* plaintiff used the 9 to 1 boil-up test on untreated starches of the prior art to differentiate the glue made from those starches from the glue of the patent, yet plaintiff's counsel do not hesitate to say, on the basis of Dr. Grosvenor's testimony, that the 9 to 1 boil-up test is applicable only to starches that have been chemically degenerated by the acid process (P. B, 27). It is impossible to reconcile that statement with plaintiffs' position in the *Solva case*. Furthermore, the evidence shows that the Perkins Company still uses this 9 to 1 test on their own starches (Grosvenor, R., 77), notwithstanding the fact that the starches now used as glue-base by the Perkins Com-

pany are degenerated by the alkali process of patent No. 1,020,656 and not by the acid process of the patent in suit (Grosvenor, R., 132).

Here we have a good illustration of the character of Dr. Grosvenor's testimony and the expedients he resorted to to escape the plain limitations of the patent.

(5) So likewise in their brief plaintiff's counsel say repeatedly that defendant's glue is the same product as the Perkins glue (P. B., 3, 25, 91, 97 and 139). But counsel nowhere cite testimony in support of this assertion and the sense in which it is made is disclosed by their last reference to the subject (139) where they define defendant's glue as "an end product, the same *good as animal glue* which Perkins obtained by his preferred process." (Emphasis ours.)

Plaintiff's testimony on the subject of identity of defendant's glue and the Perkins glue rests on this same definition of the glue of the patent. It is based on the assumption that starch glue is the same as the Perkins glue if it is usable in wood veneering. Thus Dr. Grosvenor said (R., 35) that defendant's glue had the fluidity "of the glue of the Perkins patent" and (R., 38) in answer to a leading question he said that defendant's final glue was the same "industrial technical product as the final glue of the patent in suit." But on cross examination (R., 44) he was asked a question, assuming "that there is some glue-base of the Perkins patent, meaning that will cover the various glue-bases of that patent? And that that base has to have some sort of a degree of degeneration. What I want to find out from you is, is there any starch available that is less degenerated than that, and if so, where is it so you can go find it?" and in reply he said (R., 45) that he did not care to put any limit upon the glue-base of the patent; that he had found certain rare samples of starch that were outside "the preferred limits given in the patent in suit," meaning the tests of the patent, and added:

> "I have not attempted to determine in my own mind how far those limits would be extended by *what I have always regarded as the critical test given in the patents in suit, the test whether when made up with between 2 and 3 parts of water the base would make a glue having the properties of Perkins' glue.* That distinction between that and the 170° boil-up test—170° hot water test—has never been necessary because the bases I have met have all fallen within that 170° test." (Emphasis ours.)

Now, it was Dr. Grosvenor's testimony (R., 35) that the Kane base here involved fell within the 170° hot water test, although it did not fall within the 9 to 1 boil-up test (which Dr. Grosvenor pretended was applicable only to acid treated starches) and he said (R., 36):

> "The base examined as such before mixture was as I said a high viscosity base, it was verging toward the upper limits of the preferred description of the Perkins patent in suit."

But it was subsequently proved before the Master that the Kane base here involved did not respond to the 170° hot water test, and the Master so held (D. B., 52). Under those circumstances this Court cannot rely upon the indefinite testimony of Dr. Grosvenor, colored by a mental reservation which begs the very question at issue, as sufficient basis for a finding of infringement as to which the burden of proof is on the plaintiff.

Furthermore, defendant affirmatively proved by its practical engineer, Mr. Grossman, that the Kane base makes a much heavier glue than the Perkins base, requiring special machinery to handle it (R., 51-52 and 59-60), and he made the categorical statement that defendant's glue in the spreading machine is heavier than the Perkins glue (R., 60), and (R., 61):

"As to the Kane Company's finished cooked up glue as compared in viscosity with the finished glue of Perkins, it is heavier for the same amount of water added."

Furthermore, it was proved, as shown by the testimony cited by plaintiff under the heading, "Defendant's Base is Degenerated" (P. B., 94), that defendant's Kane base has a viscosity of 100 compared with the viscosity of 60 3/5 of Perkins' commercial base by one method of testing, and that defendant's base has a viscosity of 132 compared with Perkins' viscosity of 102 by another method of testing. And, of course, the viscosity of the final glue product depends upon the viscosity of the glue-base, although the finished glue has not the same absolute viscosity as the glue base mixed with nine parts of water and heated by steam at 100 lbs. pressure.

Still further, Dr. Grosvenor actually tested the viscosity of defendant's finished glue as compared with the viscosity of the Perkins glue (using, of course, a different method of testing viscosity) and found that where the finished Perkins glue showed a viscosity by that test of 125,000 to 126,000, defendant's finished glue showed a viscosity of 156,000 (R., 73).

(6) We have tried to cover, and to eliminate, the misleading effect of plaintiff's brief due to repeated assertions with respect to issues which are not the real issues of the case, and we have pointed out how on the question of the identity of plaintiff's starch and defendant's starch the assertions of plaintiff's brief are disingenuous and beg the real question. It is impossible, and perhaps unsuitable, to follow through plaintiff's brief page by page and correct individually the often repeated statements based upon the unsound premises hereinabove referred to. But there are certain further inconsistencies that we feel that it is necessary to discuss.

(a) Thus, on page 2 of the brief, plaintiff's counsel says "*there is not a statement by anybody to the effect that anybody ever satisfactorily glued together two pieces of wood with a starch glue until Mr. Perkins did it.*" The statement is brought into the discussion as though counsel were contending that *the glue of the patent* is the first starch glue that ever satisfactorily glued together two pieces of wood. But counsel does not really mean to say that. Behind the words "until Mr. Perkins did it" stands the fact that at Poplar Bluff more than two years prior to the application for the patent in suit, Mr. Perkins "satisfactorily glued together * * * pieces of wood with a starch glue" to make barrel heads (see P. B., 60, where counsel say of the Poplar Bluff use, "so far as the evidence showed, it was the only instance where a starch adhesive had been used for gluing together bodies of wood"). That being so, it does not make any difference whether any of the other prior starch glues described in public prints as wood glues were actually used in wood veneering or not. Plaintiff cannot now broadly claim a starch glue for wood work. It must claim, and it did claim, a specific starch glue. Defendant does not use that specific glue.

(b) We have pointed out above (*ante*, p. 6) in connection with plaintiffs' proposition (a) that the position they now take is a complete reversal of the position they took in the *Solva case* and in the *Hood-Wright* and *West Michigan cases*. Although this proposition is irrelevant if defendant is right in saying that the glue patented is, when the patent is rightly construed, a combination involving as one of its two essential elements a glue-base of reduced water-absorptiveness within the range defined by the tests of the patent; and although this proposition (a) was rejected by the Court of Appeals of the Sixth Circuit; yet we think that this Court's

attention should be directed to the following incident that occurred during the trial of the *Hood-Wright* and *West Michigan cases* before Judge Sessions in 1920.

During the trial of those cases claim 13, one of the second-step claims modified by the disclaimer, was under discussion. Judge Sessions asked the witness (Dr. Grosvenor) to tell him what portion, according to the witness' idea, of claim 13 was covered by the disclaimer. Mr. Crosby interrupted, saying that he thought that a matter of law rather than a question for the expert, and thereupon the following colloquy occurred between the Court and Mr. Crosby and Mr. William H. Kenyon, who was then associated with Mr. Crosby:

"Mr. Crosby: That he except from that claim,—that he does not intend to cover in that claim any process excepting where the base used in the process is one degenerated to that point; whereas the claim, without the disclaimer, might be implied to include some other base.

The Court: What for example?

Mr. Crosby: One not degenerated to the proper point.

The Court: To what point?

Mr. Crosby: Entire raw starch, **which would not produce Perkins' glue** but some entirely different product.

Mr. Kenyon: The Circuit Court of Appeals in Chicago said that our second step, per se, was not an invention, new with us; that is, simply treating starch, any kind of starch, with water and this caustic; that it was only ours when it **started with a suitably degenerated carbohydrate, then these steps of water and caustic produced our glue; but if those steps, those identical steps of water and caustic and those identical amounts had been applied to abso-**

lutely raw starch, we would not have produced our glue. The Circuit Court of Appeals said, therefore, you can't have the claim as broad as that. We said to Judge Sanborn that word 'suitable' enables you to construe that claim down to the real limits of our invention, namely, the application of that second step, water and caustic, in those quantities, to a carbohydrate suitably degenerated. Judge Sanborn said 'no.' I think the Circuit Court of Appeals meant that that was the claim for the second step, per se, irrespective of what you started with, therefore, it is broader than your invention, because it covered, for instance, the application of these two steps to absolutely raw starch, which would not give us our glue. It also might cover the use of soluble starch or dextrine which would produce a watery size or mucilage. Therefore, we disclaimed from that claim the treating by three parts or less of water and this caustic any kind of starch except a starch that has been degenerated to the point that we have described. Now the claim, as limited by the disclaimer, is for the subject matter that is left, namely, for starting with the so degenerated starch, and with that as the subject matter of the treatment applying the three parts or less of water and the caustic and getting the result that is specified. That is our invention. The claim, with the disclaimer, is clearly in terms limited to that. Without the disclaimer it might have been as broad as Judge Sanborn seems to have considered it, and, therefore, broader than our invention. So the thing disclaimed to put it crudely, would be the mixing of raw starch, that is the wholly undegenerated starch, for example, with three parts or less of water, and six to ten per cent. of caustic, and trying to see what you would get. You would not get our glue under those

circumstances; you would not have our invention under those circumstances. We do not want to cover that; the defendant may do that. Therefore, we disclaimed that, but what is left is the starting with a starch that is **degenerated to the point that our patent describes as the subject matter of the patent, the mixing of that starch and nothing else with three parts or less of water and with the caustic, and getting as a result of that combination the good as animal glue that Perkins first gave to the world,** and that the defendant is enjoying the benefit of." (Emphasis ours.)

The "second-step" claim 13 there under discussion was referred to by Mr. Crosby as a "process" claim. The second-step claims have been so referred to throughout this litigation although they involved no processing of the starch, but merely a selection of ingredients. And it is interesting to note how completely Mr. Kenyon identified this so-called "process" of the second-step claims as amended by disclaimer with the glue product of the patent; how he said that you would not have the Perkins invention or get the Perkins glue product unless you started with a starch that was neither over-degenerated nor under-degenerated, and how he said that the patent describes as its subject-matter the mixture of that quality of starch and nothing else with 3 parts or less of water to get "the good as animal glue that Perkins first gave to the world."

Now plaintiff wants to repudiate all that and say that you can get "the good as animal glue" of the patent by starting with any starch provided only that it is not degenerated to soluble starch or dextrine. It now wants to cover that; it does not want defendant to do that, and denies that it disclaimed that.

(7) Discussing the prior cases* in which the Perkins patent has been held to be limited to a glue containing a base consisting of starch degenerated to the extent described in the patent, plaintiff's counsel erroneously say (P. B., 6-7) that in these cases the courts "found no infringement by limiting the product claims" to "Perkins preferred two-step process" and "making them of the same scope as the narrow two-step process claims." It is here that plaintiff's irrelevant discussion of the two-step process claims with chemical degeneration in the first step is peculiarly misleading. To avoid being misled here, it is necessary to appreciate that throughout the litigation the word "process" has been used in two senses—(1) to define the actual treatment or processing of the glue-base as distinguished from the selection of it, and (2) to define the selection of the glue-base and of the necessary quantity of water in accordance with the second-step claims as amended by the disclaimer.

By the time the *Gould Mfg. Co.* and *Wisconsin Chair cases* were tried before Judge Geiger, all consideration of the preferred two-step process involving chemical degeneration had dropped out because the Kane base there, as here, had not been processed at all, and that plaintiff had finally conceded. It is true that Judge Geiger (280 Fed., 729) referred to the two-step process claims 19 and 20 which had been sustained by the Court of Appeals in the *Solva case,* as well as to the second-step claims 10, 12 and 13 which had been held invalid. Claims 19 and 20 involved an actual processing of the glue-base in the first step, as distinguished from a mere selection of a properly

*We have printed as an appendix to this brief the opinions of Judge Geiger in the Gould Mfg. Co. Case, the opinion of the Circuit Court of Appeals for the Seventh Circuit in the same case and the opinion of the Circuit Court of Appeals of the Second Circuit in the Standard Case.

degenerated starting material. Original second-step claims 10, 12 and 13 contained no limitation to a first step at all, either processing or selecting. But Judge Geiger did not fail to understand (p. 730) that the position plaintiff took at the end of the *Solva* litigation was that "the final glue product may be made by suitably creating a suitable base whether previously degenerated by the alkali treatment or by the acid treatment or obtained by intermixture or simply found in the market," and said (pp. 730-731):

> "Now the query at once arises, if the patent in suit, and particularly claims 28, 30 and 31, cover any good as animal glue made from starch, if processes cut no figure, if degeneration be of no consequence, except that it may be said that the final product contains starch, in some way, somehow, degenerated or converted, then why the necessity of holding any process claims invalid? If the claims here in suit are thus all-embracing, then why *disclaim from* any of the process claims? If, for example, the product of claim 28 may be made by the processes noted in claims 10, 12, or 13, then why disclaim from the latter 'any process of making glue excepting where the starch or starchy product is degenerated to the extent described * * * *whereby* the process results,' etc. Surely the disclaimer indicates that if glue, made according to the processes broadly described in claims 10, 12, and 13, resulting in making the product noted in claim 28, then Perkins will not claim it unless the starch *subjected to the process* is degenerated to the extent described.
>
> • • • • • • • •
>
> "Surely these disclaimers proceed upon the hypothesis that glue may be made, as in such disclaimed

claims directed, even if the starch is not degenerated *as specified in the patent;* and it will not do to argue that, merely because a glue so made turns out to be good as animal glue, therefore the *precise degeneration reserved* by the disclaimer *must be assumed* to have entered into the process *in the manner specified,* and therefore into the product. If the result in the Solva Case is not as Judge Sanborn states it; if, notwithstanding the language of the court, any starch glue, good as animal glue, is within the Perkins monopoly—then the entire patent, as Judge Sanborn considered and upheld it, is now *re*claimed, not only from the decree of the appellate court, but also from the plaintiff's express disclaimer. True, in considering two-step processes, it is entirely proper to assert that an alleged infringer equivalently followed one or the other step. But after the Circuit Court of Appeals expressly held that each step, per se, was old, that their combination exhibited the patentable novelty, it was no longer possible for Perkins to claim that *each step equivalently comprehended* the other. And when, therefore, the plaintiff in this case conceded, at the opening, that the defendant's base was not within the reservation of the disclaimer, it conceded—in connection with the clear proof in the case—that the defendants in making their glue were in the disclaimed field. It would be simply paradoxical to allow that, after exempting to the public the right thus to process (see, for example, claim 10), every resultant product was still within the protection of claim 28."*

*Plaintiff's counsel professes (P. B., 107) to be unable to find any sense in Judge Geiger's statement "If the claims here in suit are thus all-embracing, then why disclaim from any of

(*Footnote continued on next page.*)

Plaintiff's counsel continue the confusion (P. B., 109) when they say:

> "Defendant's base in the case before Judge Geiger may not have been within the reservation of the disclaimer—their process may have been different from Perkins' preferred two-step process, * * *"

but it was perfectly clear to Judge Geiger that defendant's *glue* was not within the reservation of the disclaimer, not because the base had not been degenerated by some chemical process, but because it had not been chosen from among starches having reduced water-absorptiveness within the described range.

Plaintiff's counsel go on to say (P. B., 109) that plaintiff did not exempt to the public by the disclaimer

> "the right to process as described in Claim 10 and obtain the good as animal veneering glue from starch, but only the right process as described in Claim 10 *when the resultant product was something different*, as for example, a size or paste or the like." (Emphasis theirs.)

But the trouble with this argument is that it does not follow the disclaimer. The disclaimer did not ex-

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the process claims?" It seems to us that the sense of this is clear enough. He was referring to the so-called second-step process claims 10, 12 and 13 which he had quoted and which had been held invalid and which had been disclaimed from. These claims specify the production of a glue as good as animal glue made from starch of any degree of degeneration, and his query was, why it was necessary to disclaim anything from these claims if the patent in suit could legitimately "cover any good as animal glue made from starch," and he went on to explain very clearly what he meant in the sentences immediately following.

empt the making of glue from starch with 3 parts of water except only when the resultant product is something different, as for example, a size or paste or the like. The disclaimer exempted to the public "the process of making a wood glue" from a starchy product, with a solvent of cellulose and about 3 parts or less by weight of water to produce a glue having adhesive powers "substantially as great as those of good animal glue" (original claim 13) "excepting where the starch or starchy product or carbohydrate subjected to the process is degenerated to the extent described in said reissued letters patent."

This decision of Judge Geiger's was affirmed by the Court of Appeals of the Seventh Circuit (292 Fed., 596, see appendix) and there also the word "process" was used to define the selection of the glue-base rather than any particular process of chemical degeneration of the glue-base. That is, the Court did as Judge Geiger did and as plaintiff's counsel did when in the statement quoted by Judge Geiger (280 Fed., 730), they defined the selection of the proper glue-base as "suitably *creating* a suitable base, whether previously degenerated by the acid treatment, or obtained by intermixture, or simply found in the market—provided only that the base is in the proper state or condition of degeneration when treated to make this final glue product." The discussion in this litigation had at that time long passed the stage where there was any contention that the so-called "process" of the first step excluded the "creation," as plaintiff's counsel put it, of a glue-base by the selection of a starch having the necessary reduced water-absorptiveness.

(8) Plaintiff's counsel, in their discussion of the disclaimer, insist that the disclaimer from the second step claims cannot have any effect upon the product claims because in general product and process are inde-

pendent inventions. We have covered this contention in our main brief (D. B., 41-46 and 58-60), where we point out that here the disclaimed second step claims, like the product claims rest wholly on selection of ingredients, so that to disclaim *the making* of glue by applying three parts of water and alkali to any starch except only a starch degenerated to the extent described in the patent cannot be differentiated from disclaiming *glue made* with three parts of water and alkali and any starch glue-base except only a starch degenerated to the extent described in the patent.

The case mainly relied upon by plaintiff's counsel in this connection and discussed by them at pages 9, 110 and 145, is *Rubber Co.* vs. *Goodyear*, 76 U. S., 788. Plaintiff's contention finds no support in that case. In fact, the invalidity of the second step claims as they originally stood might properly have been arrived at by the Court of Appeals in the *Solva* case in strict accordance with the rule of the *Goodyear* case, and the validity of the product claims might properly, we think, have been arrived at by the application of the rule of the *Goodyear* case in connection with the application of the rule in *Hobbs* vs. *Beach, etc., ante* (p. 5). In the *Goodyear* case (p. 794) "the court below held the objection to the patent for the process—that it is too broad—fatal to its validity, because the claim embraced 'other vulcanizable gums' besides India rubber as articles to which the process was to be applied"—just as in the *Solva* case the Court of Appeals held the second step claims invalid because they embraced the application of the second step to starch other than starch degenerated to the extent specified in the patent. In the *Goodyear* case the product claim was of *narrower* scope, specifying the special ingredient India rubber, and the Court held that its patentability was not affected by the invalidity of the *broader* process claim not so limited. So in the *Solva* case the Court interpreted those words of the product

claims which identified the starch as limited to a starch of the particular kind described and held the product claims so limited patentable notwithstanding the invalidity of the broad second step claims. The rule of the *Goodyear* case that the invalidity of the *too broad* process claims does not affect the validity of a *properly restricted* product claim affords no basis for saying here that when plaintiff disclaimed the making of glue from starch with three parts of water, except only when the starch was degenerated to the extent described, it could still assert that the patent covers glue so made.

The cases upon which we rely (D. B., 58) fully sustain the proposition we advance—that where the character of the final product hinges on the selection of materials rather than on the mode of treatment, claims defining the selection cannot logically be differentiated from claims defining the product resulting from the selection. Plaintiff's discussion of those cases (P. B., 167-168) does not touch the point.

The correctness of the rule upon which we here insist was in fact recognized by Judge Sanborn in his memorandum for final decree in the *Solva* case, where he said (R., 359-360):

> "The first step designed to produce the glue-base is therefore old and necessarily unpatentable, hence the base itself must be equally impossible of patent protection"

and that statement is quoted with apparent approval in plaintiff's brief here (P. B., 84).

(9) Plaintiff's counsel printed in their brief an opinion furnished to them by former Judge E. Henry Lacombe some time before his death (P. B., 175-176). This opinion shows the confusion as to process and product above discussed. It assumes that the opinions of the 2nd C. C. A. and the 7th C. C. A. are in conflict with the rule of the *Goodyear case* that process and product

are, in general, separate and independent inventions. We trust that we have made it plain here, as we might have made it plain to Judge Lacombe, if we had been asked to do so, that the rule of the *Goodyear case* is not involved in those decisions.

Respectfully submitted,

CHARLES E. HUGHES,
WILLIAM H. DAVIS,
JAMES A. WATSON,
R. MORTON ADAMS.

March 10, 1928.

PERKINS GLUE COMPANY vs. GOULD MANUFACTURING COMPANY, et al.

SAME vs. THE WISCONSIN CHAIR COMPANY, et al.

United States District Court, Eastern District of Wisconsin, May 3, 1922.

280 Fed., 728.

GEIGER, D. J.:

These two cases rest upon the re-issue patent to Perkins which was the subject of consideration in Perkins Glue Company vs. Solva Waterproof Co., reported 223 Fed. Rep., 792 (D. C., N. D., Ill.); and Id. (C. C. A., 7th Cir.), 251 Fed., 64, Claims Nos. 28, 30, and 31 are in issue:

> "28. A glue comprising cassava carbohydrate rendered semi-fluid by digestion and having substantially the properties of animal glue."
>
> "30. A wood and fiber glue formed of a starchy carbohydrate or its equivalent by union therewith of about three parts or less by weight of water and alkali metal hydroxid."
>
> "31. A wood and fiber glue containing amylaceous material as a base dissolved without acid in about three parts of water or less, and being viscous, semi-fluid and unjellified."

It will be assumed that nominally at least, the above three claims were comprehended within the decree in the Solva case as valid, and therein held infringed. But the present case, in view of the determination by the Circuit

Court of Appeals, presents sharply the question, whether, in the light of the determination by said court upon other claims of the patent, these three claims can be or were intended to be held valid without any limitation whatsoever. The plaintiff contends that such claims were recognized as broadly valid, covering a new product and, therefore, the product,—i. e., "a glue comprising cassava carbohydrate rendered semi-fluid by digestion and having substantially the properties of animal glue"—cannot be made by any process without leave or license of the plaintiff. The defendant contends that the determination by the Court of Appeals limited the validity of the three claims in question to a product made according to processes held valid by the Circuit Court of Appeals, but do not cover a product made according to other processes and particularly processes, claims for which were held invalid in the identical case determined by the Circuit Court of Appeals; or claims which plaintiff "disclaimed" as hereinafter noted.

In the Solva case process claims were held valid, among them:

> "19. In the process of making good glue, the combination of the following steps, agitating a cassava carbohydrate with a digestive agent to decrease its water-absorptive properties without rendering the carbohydrate materially soluble in cold water and then putting the product thus produced into a solution containing about three parts or less by weight of water to produce a glue for application."
>
> "20. The process of making glue, which consists in agitating a starchy carbohydrate with water and a digesting agent to reduce the water-absorptive properties of the carbohydrate without rendering it materially soluble in water, then mixing the carbohydrate with water and caustic alkali, the amount of

water used being about three parts or less by weight of dry carbohydrate, the amount of caustic used being about ten per cent. or less by weight of dry carbohydrate to form the glue as distinguished from mucilages, sizes and paste."

See also other two-step claims in patent.

Claims 10, 12 and 13 of the patent are pertinent to the questions now presented:

"10. The process of making glue which consists in dissolving cassava carbohydrate in caustic alkali until a glue is formed as distinguished from mucilages, sizes and pastes."

"12. The process of making a glue, which consists in mixing starch with water and caustic alkali to dissolve the carbohydrate, the amount of water used being about three parts or less by weight of dry carbohydrate so that a wood glue is formed as distinguished from mucilages, sizes and paste."

"13. The process of making a wood glue which consists in treating a suitable starchy product a material portion of which is substantially insoluble in water with a solvent of cellulose and about three parts or less by weight of water, to produce a glue having adhesive powers substantially as great as those of good animal glue."

The Circuit Court of Appeals dealt thus with the decree of the District Court:

"The decree of the District Court sustaining the claims for a glue base process and product and for the so-called 'second step' as such is reversed, and that part of it which upholds the claims of the patent

for the final process and the resultant product respectively is affirmed * * *"

When the case was remitted to the District Court for entry of a decree upon this mandate, the parties appeared to be at variance respecting the effect of the appellate ruling, and Judge Sanborn expressed himself in a memorandum:

"The opinion of the Circuit Court of Appeals is said by counsel for all parties to be perfectly clear, but they differ radically as to its meaning and submit totally different forms of decrees. The opinion of Judge Kohlsaat requires very careful study, as well as the patents, and even then the opinion is obscure and other appeal may be necessary to fully determine its meaning. To the best of my ability I will endeavor to state that meaning as I understand it.

"The first process or step of the patent is for the purpose of creating a suitable starch paste and then applying to that base the second step in order to produce the final product or starch glue. These are the only steps or processes described and they may be taken singly or together. Both are old and unpatentable when taken separately. But when joined together to produce starch glue which has the properties described by Mr. Perkins and which is as good or better than animal glue, they are new and make patentable subject matter both as a process and as producing a patentable product consisting of glue. * * *

"From these quotations it seems probable that the appellate court intended to sustain only those claims of the patent which included only the two steps and only when their use results in the Perkins glue together with such additional claims which count on

such glue as a product of the two steps and no others."

"The result of the foregoing is that the argument of counsel for defendants is adopted so far as construction of the decree is concerned, and that of plaintiff's counsel rejected."

This opinion was filed and the decree pursuant to the mandate entered on August 5, 1918.

On February 6, 1919, the plaintiff herein, as assignee of the patentee, filed a disclaimer—undoubtedly obediently to its conception of the ruling of the appellate court and Judge Sanborn's intepretation thereof, as above noted,—which disclaimer is abstracted thus:

"Enters its disclaimer of claims 1, 3, 4, 6, 7, 8, 16, 24, 25, 26 and 27 thereof (to wit, the claims for the glue base, per se, and for the process of making the glue base, per se). And, further, it hereby disclaims from claims 9, 10, 11, 12, 13, 14 and 38 of said re-issued Letters Patent numbered 13,436, any process of making glue, excepting where the starch or starchy product or carbohydrate subjected to the process is degenerated to the extent described in said re-issued letters patent number 13,436, whereby the process results in the good-as-animal glue described in said re-issued Letters Patent. * * *"

The plaintiff, upon the motion for rehearing in the appellate court, observed:

"As the opinion plainly indicates, the final glue product may be made by suitably creating a suitable base, whether previously degenerated by the alkali treatment, or by the acid treatment, or obtained by intermixture, or simply found in the market—pro-

vided only that the base is in the proper state or condition of degeneration when treated to make this final glue product."

Now the query at once arises, if the patent in suit and particularly claims 28, 30 and 31, cover any good-as-animal glue made from starch, if processes cut no figure, if degeneration be of no consequence except that it may be said that the final product contains starch, in some way, somehow, degenerated or converted, then why the necessity of holding any process claims invalid? If the claims here in suit are thus all-embracing, then why *disclaim from* any of the process claims? If, for example, the product of claim 28 may be made by the processes noted in claims 10, 12, or 13, then why disclaim from the latter "any process of making glue excepting where the starch or starchy product is degenerated to the extent described * * * *whereby* the process results," etc. Surely the disclaimer indicates that if glue, made according to the processes broadly described in claims 10, 12 and 13, resulting in making the product noted in claim 28, then Perkins will not claim it unless the starch *subjected to the process* is degenerated to the extent described. And if, as must be conceded, all starches, whether used in glue, sizes or pastes, undergo degeneration or conversion, and if, as claimed on rehearing, the degeneration may take place or may be obtained by "intermixture" with other ingredients, then again, why the necessity of claims 10, 12 or 13, why the necessity of the more specific two-step claims, and why the necessity of any disclaimer out of claims 10, 12 and 13?

Surely these disclaimers proceed upon the hypothesis that glue may be made, as in such disclaimed claims directed, even if the starch is not degenerated *as specified in the patent;* and it will not do to argue that merely because a glue so made turns out to be good-as-animal

glue, therefore the *precise degeneration reserved* by the disclaimer *must be assumed* to have entered into the process *in the manner specified,* and therefore into the product. If the result in the Solva Case is not as Judge Sanborn states it; if, notwithstanding the language of the Court, any starch glue, good-as-animal glue, is within the Perkins monopoly,—then the entire patent, as Judge Sanborn considered and upheld it, is now reclaimed, not only from the decree of the appellate court but also from the plaintiff's express disclaimer. True, in considering two-step processes, it is entirely proper to assert that an alleged infringer equivalently followed one or the other step. But after the Circuit Court of Appeals expressly held that each step, per se, was old, that their combination exhibited the patentable novelty, it was no longer possible for Perkins to claim that *each step equivalently comprehended* the other. And when, therefore, the plaintiff in this case conceded, at the opening, that the defendant's base was not within the reservation of the disclaimer, it conceded —in connection with the clear proof in the case—that the defendants in making their glue were in the disclaimed field. It would be simply paradoxical to allow that after exempting to the public the right thus to process (see for example claim 10) every resultant product was still within the protection of claim 28.

It is my judgment that the result in the appellate court, when considered with the subsequent disclaimer, gives to patents such as Gerard (Belgian patent No. 34,869) and Dornemann (French, No. 232,781), a significance which was necessarily denied them when Judge Sanborn in the Solva Case accorded broad validity to practically the whole of the Perkins patent. The proofs in the case respecting practice of the processes of each of those two patents seem to me a perfect demonstration that the plaintiffs' disclaimer of claims 10, 12 and 13

was in effect a disclaimer of Gerard and Dornemann, and it would be absurd upon the proofs now here to say that the processes and product practiced and produced by defendants' witnesses were permissible if the product be called "sizing" or "paste," but not permissible, if upon practice of the process—the disclaimed process—good veneering glue resulted.

Plaintiff's witness, Grosvenor, admitted, though somewhat reluctantly, that, though his experimental use of Gerard or Dornemann gave an unsatisfactory product, he would not deny that, had he practiced such processes by using defendant's base, he would have had defendant's glue as a resultant. On the other hand, the defendants' witnesses leave no doubt upon the matter, unless such doubt is arbitrarily injected by *assuming* that every base is, or sooner or later will be, degenerated *as specified* by Perkins. But, as noted, this assumption should have resulted unhesitatingly in an affirmance of the decree in the Solva Case and a validating of the Perkins patent in its entirety, and, of course, dispense with the necessity of any disclaimer.

It is my judgment that, upon the issue as defendants clearly tender it, the Perkins patent—in view of the result in the Solva Case and the plaintiff's disclaimer—must now be regarded as embodying processes and product clearly apprehendable by workers in the art, and apparently the Circuit Court of Appeals aimed to point out an invention thus apprehendable. Else it would not have been necessary to observe that "there seems to have been great difficulty in getting at the correct *formula;* that Perkins labored years to get the latter *just right*"; that, quoting from the witness Carmichael, "he [Perkins] proportioned the *various steps* to one another according to the selection of raw material, in the conversion of the raw material, and in the solution of the material, being particular about the various substeps by

which, in the main step effecting the solution, he obtained a uniform and homogeneous product."

Therefore, it is not possible, after crediting Perkins with discovering a correct formula, one that is "just right," to assume that every formula which he discarded, and that every product made by a discarded formula, is none the less within his monopoly, nor to extend the latter over products resultant upon the practice of Gerard or Dornemann, even though the latter failed or were not interested in apprehending the efficacy of their processes to produce a veneering glue satisfactory to others than to Perkins.

Further, Perkins' monopoly cannot be left within vague, undetermined or undeterminable boundaries by the mere suggestion that "by proper adjustment of conditions" raw starches "may be used without the first-step treatment." Such "proper adjustment" must in any event appear as clear legal equivalency, and, as noted, the proof of such equivalency is not adduced by mere statement that an alleged infringer is making good veneering glue out of starch, wherefore he must have availed himself of Perkins' discovery.

I am well satisfied to interpret the result in the Solva Case as did Judge Sanborn. Indeed, his estimate, when considered in the light of his exhaustive research at the original trial, is most persuasive; and upon such view the proofs in this case clearly absolve the defendants from any charge of infringement.

A decree dismissing the bills may be entered accordingly.

Perkins Glue Co. vs. Standard Furniture Co.

(Circuit Court of Appeals, Second Circuit, January 8, 1923.)

287 Fed., 109.

Hough, C. J.:

The history of litigation over this patent is so long and so fully reported that we shall for the most part express our opinion about the facts at bar by reference to other decisions. The patent is the Perkins reissue No. 13,436 (original No. 1,020,655, dated March 19, 1912; reissue dated July 2, 1912).

The validity and scope of the patent were elaborately considered by the appellate court in the Seventh Circuit in Solva, etc., Co. vs. Perkins, etc., Co., 251 Fed., 64, 163 C. C. A., 314, modifying (D. C.) 223 Fed., 792. Claims 13, 28, 30, 31, and 38, were there in issue and are also the subject of litigation here. The subject-matter of the patent is described by its title, viz., "glue and method of making the same," and the language of the claims is sufficiently set forth in the opinion of Cooper, J., below in the present litigation. Perkins, etc., Co. vs. Standard, etc., Co., 279 Fed., 458.

The patent has also been considered in one of the Michigan districts. Perkins, etc., Co. vs. Hood, 279 Fed., 454; Same vs. Holland, etc., Co., 279 Fed., 457. Since opinion was filed below the patent has been carefully gone over in Perkins, etc., Co. vs. Gould, etc., Co., 280 Fed., 728, by Geiger, J.

This record contains no evidence offered by plaintiff casting any new light on Perkins' disclosure; that is we find in plaintiff's present evidence material explaining what all the courts have said and what they have differed about, and nothing else. The owners of the pat-

ent cannot in our opinion complain of the result reached by the Circuit Court of Appeals in the Solva Case, supra, namely, that the process disclosed by Perkins consisted of two parts or steps, and that each of the steps considered by itself was old, but the product was new and patentable. Nor can plaintiff complain if, without expressing agreement or disagreement with this result, we accept it for purposes of present decision.

Sanborn, District Judge, upon receipt of the mandate in the Solva Case, ruled that only those claims remained valid after the decision of the higher court "which included the two steps (of the process) and only when their use results in Perkins' glue, together with such additional claims as count on such glue as a product of the two steps and no others." We are not advised that any appeal was ever taken from this interpretation of the ruling of the Circuit Court of Appeals. Subsequent to such ruling, however, this plaintiff disclaimed, inter alia, from claims 13 and 38 of the reissue, "any process of making glue excepting where the starch or starchy product of carbohydrate subjected to the process is degenerated to the extent described in" in the reissue. For this procedure, see 280 Fed., 729, 730.

The infringement here claimed is that defendant procures starch so degenerated somehow or anyhow (plaintiff cares not) as to be in a condition equivalent to starch treated by Perkins' first process, and then gives to that substance Perkins' second process, and so obtains Perkins' product. "Degeneration," as used throughout this evidence, means, according to plaintiff's expert witness, "a certain proportioning of resulting viscosity, cohesiveness, and adhesiveness." As matter of fact there is no denial of defendant's evidence that the starchy substance or carbohydrate (called viscamite), which it uses as the base for its alleged infringing glue, is a natural product; it has received no chemical treatment whatever. The

fact is that the earth has been found to produce a starch which plaintiff says is the exact equivalent of what Perkins made by his first process.

This product of nature cannot, per se, be covered by any patent, and it certainly is not the result of any process devised by Perkins. Therefore, if we accept the decision in the Solva Case as interpreted by Sanborn, J., and apparently acquiesced in by plaintiff, there can be no infringement, because this defendant is not using a glue which is the result of both steps of Perkins' patent.

But we go further, and examine with particularity the method or process used by defendant in making its glue. Fortunately what the defendant did was so plain that it is covered by a stipulation, inter partes, the substance of which is that, starting with the natural starch base, a mixture is made ultimately containing "about 2⅓ parts of water to one part of starch base by weight and about 3 per cent. of caustic soda based on the weight of the starch." Let it be assumed that this is the equivalent of Perkins' product, yet it remains true (1) that the process, per se, has been held old, and (2) that in our opinion it is substantially disclosed in the Dornemann French patent of December 11, 1893, and described with reasonable accuracy in Belgian patent to Gerard of June 19, 1874.

In our opinion this record shows that some accident of nature, or the skill of agriculturists, has produced and put on the market a cassava starch of that degree of viscosity, etc., which Perkins achieved by his degenerative process. With such a starch, defendant, by using methods as old as Gerard, has produced a substance which plaintiff says is Perkins' glue. Perhaps it is in result; but it cannot be the same thing in a patentable sense, because nature has supplied the base and Gerard the process. The only reason that ever justi-

fied any court in holding Perkins' product patentably new was by finding it the peculiar result of a combination of two processes severally old. No such foundation for a finding exists in this case.

We have not attempted to harmonize or explain all the previous decisions; it is enough to point out that, if the only appellate decision be accepted as finally interpreted, there is no infringement, and if the facts in this case alone be regarded, nature or the farmer has (so to speak) superseded the first half of Perkins' method, and, as the second half was not new, the product of a natural base treated by an old process cannot be an infringement under any view of the law.

Plaintiff has defined its product as a "new vegetable glue, as good as animal glue for veneering." We think that this definition is not advanced by embodying in it a laudatory phrase descriptive of intended result. We may agree that Perkins disclosed a "new vegetable glue"; i. e., a manufactured product. There are some manufactured products so broadly new that the same thing, however produced, may be within the invention's broad range of equivalents. This is a question of fact; but, on the prior art and the evidence herein as to modern cassava starch, Perkins' vegetable glue is not such a product.

We think, therefore, that the lower court fell into error in substantially paying no attention to the nature of defendant's starch base, and it is directed that the decree be reversed, and the cause remanded, with directions to dismiss the bill, with costs, in both courts, on the ground of noninfringement.

PERKINS GLUE CO. vs. GOULD MFG. CO., et al.

SAME vs. WISCONSIN CHAIR CO., et al.

(Circuit Court of Appeals, Seventh Circuit, June 18, 1923.)

292 Fed., 596.

BAKER, Circuit Judge:

In each of these cases appellant based its complaint upon claims 28, 30 and 31 of reissue patent No. 13,436, July 2, 1912, for improvements in glue and method of making the same. The bills were dismissed on the ground of non-infringement. See 280 Fed., 728.

The claims in suit read as follows:

> "28. A glue comprising cassava carbohydrate rendered semi-fluid by digestion and having substantially the properties of animal glue.
>
> 30. A wood and fiber glue formed of a starchy carbohydrate or its equivalent by union therewith of about three parts or less by weight of water and alkali metal hydroxid.
>
> 31. A wood and fiber glue containing amylaceous material as a base dissolved without acid in about three parts of water or less, and being viscous, semi-fluid, and unjellified."

In Solva Glue Co. vs. Perkins Glue Co., 251 Fed., 64, 163 C. C. A., 314, this Court considered the validity and scope of this same patent in view of the prior art. And in Perkins Glue Co. vs. Standard Furniture Co. (C. C. A.), 287 Fed., 109, the Circuit Court of Appeals for the

Second Circuit has recently given its estimate of this patent, in view of the prior art and prior decisions.

From the former decision in this court it appears that the patent contains five classes of claims; (1) the process of making from starch a base for glue; (2) the glue base as a product; (3) the process of converting the glue base into glue; (4) the combination of the two aforesaid processes; (5) claims for glue as a product. The first three groups were held to be invalid, the fourth and fifth were sustained, and the particular question now here for decision is whether the claims in group 5 are limited to a product that is the result of practicing the process of claims in group 4, or should extend to all glues made from starch bases irrespective of the method, provided only that they have the essential characteristics of the glue made by the process of the claims in group 4.

Though the decision in the Solva Case is not res adjudicata between the present litigants, we find no difficulty in following it on the principle of stare decisis. After reversing that part of the decree which sustained the claims for a glue base process and product and for the so-called second process as such, the mandate reads:

> "And that part of the decree which upholds the claims of the patent for the final process (that is, the combination of the processes numbered 1 and 3 above) and the resultant product respectively is affirmed."

It seems to us that the Court intended to limit the valid product claims to the product that resulted from practicing the valid process claims. Such was the interpretation put upon the opinion by Judge Sanborn when the case was returned to his court to execute the mandate, and the Perkins Glue Company failed to appeal from his consequent action; and the same valuation of the opinion

in the Solva Case was made by the Court of Appeals for the Second Circuit in the Standard Furniture Case.

Following the final decree of Judge Sanborn, appellant filed in the Patent Office a disclaimer of all the claims for the glue base and all the claims for the process of making the glue base; and appellant further disclaimed "from claims 9, 10, 11, 12, 13, 14 and 38," which cover the second process, "any process of making glue excepting where the starch or starchy product or carbohydrate subjected to the process is degenerated," by use of the first process, "to the extent described in the said patent." In our judgment this disclaimer is a conclusive bar to appellant's attempt to monopolize a product, which does not depend at all for its existence upon the use of appellant's valid process claims.

In addition to the foregoing reasons, we may say that our view of the prior art leads us to the conclusion that the only patentably novel thing that could be attributed to Perkins' labors was the combination of two processes which severally were old, and that no product claims could validly be given a broader sweep of monopoly than inheres in the combined processes.

The decrees are severally affirmed.